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1-1-1996

## Test 1714: Case IH 9380 Diesel 12-Speed (Chassis S/N JEE0036501 and Higher)

Tractor Museum

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# NEBRASKA OECD TRACTOR TEST 1714—SUMMARY 209

## CASE IH 9380 DIESEL

### 12 SPEED

#### (CHASSIS SERIAL NUMBERS JEE0036501 AND HIGHER)

**Location of Test:** Tractor Testing Laboratory,  
University of Nebraska, Lincoln, Nebraska 68583-0832

**Dates of Test:** May 30- June 4, 1996

**Manufacturer:** CASE CORPORATION, 3401  
First Avenue North, Fargo, North Dakota 58102

**FUEL OIL and TIME:** Fuel No. 2 Diesel Cetane No. 50.6 Specific gravity converted to 60°/60° F (15°/15°C) 0.8432 Fuel weight 7.021 lbs/gal (0.841 kg/l) Oil SAE 15W-40 API service classification CG-4, CF-2 To motor 7.972 gal (30.177 l) Drained from motor 7.536 gal (28.529 l) Transmission and final drive lubricant Case IH Hytran Plus fluid Hydraulic lubricant Case IH Hytran Plus fluid Total time engine was operated 13.5 hours.

**ENGINE:** Make Cummins Diesel Type six cylinder vertical with turbocharger and intercooler Serial No. 30353425 Crankshaft lengthwise Rated engine speed 2100 Bore and stroke (as specified) 5.5" × 6.0" (139.7 mm × 152.4 mm) Compression ratio 16.5 to 1 Displacement 855 cu in (14013 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements and aspirator Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil, radiator for transmission oil, radiator for hydraulic, steering and rear axle oil Fuel filter one paper element Muffler vertical Cooling medium temperature control thermostat

**ENGINE OPERATING PARAMETERS: fuel rate:** 142.0 - 148.0 lb/h (64.4 - 67.1 kg/h) high idle: 2260 - 2400 rpm Turbo boost nominal 21.6 - 26.5 psi (149 - 183 kPa) as measured 24.7 psi (170 kPa)

**CHASSIS:** Type four wheel drive with duals Serial No. \*JEE0035300\* Tread width rear 76.5" (1943 mm) and 133.5" (3391 mm) front 76.5" (1943 mm) and 133.5" (3391 mm) Wheel base 144.0" (3658 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with full range operator controlled powershift Nominal travel speeds mph (km/h) first 2.30 (3.70) second 2.78 (4.47) third 3.42 (5.50) fourth 4.15 (6.68) fifth 5.02 (8.08) sixth 6.19 (9.96) seventh 7.30 (11.75) eighth 8.84 (14.22) ninth 10.88 (17.51) tenth 13.21 (21.26) eleventh 15.99 (25.73) twelfth 19.67 (31.65) reverse 3.00 (4.83), 5.43 (8.74), 9.55 (15.37) Clutch multiple wet disc hydraulically actuated by foot pedal Brakes caliper disc hydraulically operated by foot pedal Steering hydrostatic and articulated Power take-off 1000 rpm at 2098 engine rpm Unladen tractor mass 31580 lb (14325 kg)

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed (PTO speed—1000 rpm)</b>					
360.76 (269.02)	2100	20.83 (78.87)	0.405 (0.247)	17.32 (3.41)	
<b>Maximum Power (2 hours)</b>					
364.34 (271.69)	2000	20.37 (77.10)	0.393 (0.239)	17.89 (3.52)	

#### VARYING POWER AND FUEL CONSUMPTION

360.76 (269.02)	2100	20.83 (78.87)	0.405 (0.247)	17.32 (3.41)	Air temperature
322.79 (240.70)	2212	19.95 (75.54)	0.434 (0.264)	16.18 (3.19)	75°F (24°C)
246.23 (183.61)	2249	16.62 (62.92)	0.474 (0.288)	14.81 (2.92)	Relative humidity
165.69 (123.55)	2271	12.90 (48.85)	0.547 (0.333)	12.84 (2.53)	69%
83.99 (62.63)	2301	9.14 (34.61)	0.764 (0.465)	9.19 (1.81)	Barometer
1.59 (1.19)	2340	5.98 (22.64)	26.402 (16.060)	0.27 (0.05)	28.84" Hg (97.66 kPa)

Maximum Torque 1352 lb.-ft. (1833 Nm) at 1299 rpm

Maximum Torque Rise 50.0%

Torque rise at 1700 engine rpm 22%

#### DRAWBAR PERFORMANCE FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power 7th Gear</b>									
321.75 (239.93)	16608 (73.87)	7.27 (11.69)	2098	2.05	0.452 (0.275)	15.54 (3.06)	186 (86)	66 (19)	29.01 (98.24)
<b>75% of Pull at Maximum Power 7th Gear</b>									
257.23 (191.81)	12458 (55.42)	7.74 (12.46)	2223	1.50	0.505 (0.307)	13.89 (2.74)	184 (84)	68 (20)	29.02 (98.27)
<b>50% of Pull at Maximum Power 7th Gear</b>									
174.88 (130.41)	8290 (36.88)	7.91 (12.73)	2260	1.04	0.590 (0.359)	11.90 (2.34)	181 (83)	68 (20)	29.02 (98.27)
<b>75% of Pull at Reduced Engine Speed 8th Gear</b>									
257.38 (191.93)	12444 (55.35)	7.76 (12.48)	1840	1.59	0.436 (0.265)	16.10 (3.17)	182 (83)	68 (20)	29.02 (98.27)
<b>50% of Pull at Reduced Engine Speed 8th Gear</b>									
175.28 (130.71)	8292 (36.88)	7.93 (12.76)	1871	0.95	0.504 (0.306)	13.93 (2.75)	181 (83)	68 (20)	29.02 (98.27)

## DRAWBAR PERFORMANCE AT 2000 RPM

### MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
3rd Gear									
292.55 (218.16)	33422 (148.67)	3.28 (5.28)	2161	8.25	0.504 (0.307)	13.93 (2.74)	182 (83)	62 (17)	29.04 (98.34)
4th Gear									
310.69 (231.68)	30597 (136.10)	3.81 (6.13)	2000	5.46	0.463 (0.282)	15.15 (2.98)	183 (84)	64 (18)	29.05 (98.37)
5th Gear									
319.69 (238.39)	25569 (113.74)	4.69 (7.55)	2003	3.92	0.445 (0.271)	15.77 (3.11)	186 (86)	64 (18)	29.04 (98.34)
6th Gear									
320.26 (238.82)	20606 (91.66)	5.83 (9.38)	2000	2.86	0.442 (0.269)	15.88 (3.13)	187 (86)	65 (18)	29.03 (98.31)
7th Gear									
321.71 (239.90)	17370 (77.26)	6.95 (11.18)	2008	2.05	0.441 (0.268)	15.92 (3.14)	186 (86)	66 (19)	29.02 (98.27)
8th Gear									
321.33 (239.61)	14312 (63.66)	8.42 (13.55)	2002	1.59	0.443 (0.269)	15.86 (3.12)	186 (86)	66 (19)	29.03 (98.31)

### TRACTOR SOUND LEVEL WITH CAB

	dB(A)
At 75% load in 5th Gear	76.0
Bystander	—

### TIRES AND WEIGHT

Rear Tires—No., size, ply & psi (kPa)  
Front Tires—No., size, ply & psi (kPa)

#### Tested Without Ballast

Four 20.8R42; \*\*, 12 (85)  
Four 20.8R42; \*\*, 12 (85)

#### Height of Drawbar

17.0 in (430 mm)

#### Static Weight with Operator—Rear

12886 lb (5836 kg)

—Front

18880 lb (8564 kg)

—Total

31746 lb (14400 kg)

## THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: No Three Point Hitch Available

Quick Attach: NA

Maximum Force Exerted Through Whole Range:

NA

i) Opening pressure of relief valve:

NA

Sustained pressure with pump installed:

2930 psi (202 bar)

ii) Pump delivery rate at minimum pressure:

27.5 GPM (104.1 l/min)

iii) Pump delivery rate at maximum

hydraulic power:

23.5 GPM (89.0 l/min)

Delivery pressure:

2720 psi (188 bar)

Power:

37.3 HP (27.8 kW)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 123° F (50° C). The drawbar pull in 3rd gear was limited to avoid excessive tractor bouncing. The performance figures on this summary were taken from a test conducted under the OECD Code II Restricted Standard Test Code procedure.

**NOTE:** The performance figures on this report apply to tractor chassis serial numbers JEE0036501 and higher.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1714, Summary 209, June 7, 1996.

LOUIS I. LEVITICUS

Engineer-in-Charge

L.L. BASHFORD

G.J. HOFFMAN

M.F. KOCHER

Board of Tractor Test Engineers



**CASE IH 9380 Diesel**

**Agricultural Research Division  
Institute of Agriculture and Natural Resources  
University of Nebraska—Lincoln  
Darrell Nelson, Dean and Director**